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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,721	09/22/2003	Angela M. Belcher	027053-0107	5505
23533	7590	09/29/2005	EXAMINER	
STEPHEN B MAEBIUS FOLEY AND LARDNER 3000 K STREET N W SUITE 500 WASHINGTON, DC 20007-5109			WESSENDORF, TERESA D	
			ART UNIT	PAPER NUMBER
			1639	

DATE MAILED: 09/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/665,721

Applicant(s)

BELCHER ET AL.

Examiner

T. D. Wessendorf

Art Unit

1639

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-143 is/are pending in the application.
- 4a) Of the above claim(s) 1-132, 142 and 143 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 133-141 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

Applicant's election with traverse of Group XVI drawn to claims 133-141 is acknowledged. The traversal is on the ground(s) that the restriction requirement is unduly excessive. This is not found persuasive because the number of claim categories is not excessive as based on the excessive number of claims (i.e., 143). Nonetheless, restriction of each of the groups was made because the inventions are each distinct and independent inventions.

The requirement is still deemed proper and is therefore made FINAL.

Applicants' election of the species is also acknowledged. Applicants elect cobalt (Co) as the magnetic material: SEQ ID NO: 15 peptide sequence, a combinatorial library as the library, and silicon as the substrate. Applicants disagree with the Examiner concerning the excessive number of claim categories (26) in the restriction and the statements used to support the restriction. In response, there are only 18 claim categories, not 26. [Note that the elected claims do not contain any peptide sequence or substrate. Hence, the election for this species is not required and will not be examined.]

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Claims 1-132 and 142-143 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions and species, there being no allowable generic or linking claim. Election was made **with** traverse.

***Status of Claims***

Claims 1-143 are pending

Claims 1-132 and 142-143 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and species.

Claims 133-141 are under examination.

***Specification***

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors (typographical, grammatical and idiomatic). Applicants' cooperation is requested in correcting any errors of which applicants may become aware in the specification.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: claim 133 drawn to "binding molecule-synthesized" metal particles and "aspect" ratio of the metal particles.

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***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 133-141 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. Claim 133 is unclear as to the term "binding molecule-synthesized" metal particles. It is not clear as to direct meaning of said term, especially in the absence of positive recitation in the specification.

B. Claim 137 is unclear as it relates to a method step. This claim is inconsistent with the base claim which recites a metal compound with a binding molecule.

C. Claim 138 is indefinite as to the term "aspect" ratio of the metal particle, especially in the absence of positive recitation in the specification.

D. The terms "elongated" and "long" in claim 139 are relative terms, which renders the claim indefinite. The terms are not defined by the claim, the specification does not provide

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a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

### ***Double Patenting***

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claim 133, for example, is provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 37, for example of copending Application No. 10/157,775 ('775 application) or claim e.g., 78 of copending application 10/155,883 ('883 application) or of claims e.g., 52, 63 and 64, of copending Application No. 10/158,596 ('596). This is a provisional double patenting rejection since the conflicting claims have not in fact been patented. [Note due to the excessive number of claims only the base claim in each applications are cited in the rejection.]

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Each of the applications is drawn to nearly identical composition. The instant invention claims a metal binding molecule-synthesized metal particles which is nearly identical to the composition of e.g., '775 application. The '775 application directly recites a composition comprising a metal and binding molecule, as the bacteriophage library. Although each of the claims is worded differently, however, as evident from each of these applications' disclosure the same composition i.e., library of phage and metal is disclosed and described in all of the copending applications.

***Double Patenting (Obviousness-type)***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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Claim 133, for example, is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 37 of copending Application No. 10/1557,775 or claim 78, for example, of copending application No. 10/155,883 or of claims e.g., 52, 63 and 64, inter alia, of copending Application No. 10/158,596. Although the conflicting claims are not identical, they are not patentably distinct from each other for the reasons stated above under the 101 double patenting rejection. Furthermore, the form assumes by each of the different compositions do not make the composition different from one another as the compounds in the composition is same. To make a composition in different forms would be an obvious design.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -



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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 133-137 and 139-141 are rejected under 35

U.S.C. 102(a) as being anticipated by Naik et al (Nature, 2002).

Naik discloses at pages 169-172, particularly page 170, an Ag (metal material, as claimed) particles synthesized by the silver-binding peptides. Naik et al discloses at page 168, col. 1 bacteria- synthesized magnetic particles silver nanoparticles and yeast cells synthesized cadmium sulphide nanoparticles. Accordingly, the specific metal material of Naik anticipates the broad claimed metal material.

Claims 133-137 and 139-141 are rejected under 35

U.S.C. 102(a) as being anticipated by Puntès et al (Science, 2001) or Sakaguchi et al (Letters to Nature).

Puntès discloses a magnetic Co nanorods synthesized from bacterial. See pages 2115-2117.

Sakaguchi discloses a magnetite particles synthesize from bacteria. See e.g., page 47 up to page 48.

Claims 133, 136, 137 and 141 are rejected under 35

U.S.C. 102(b) as being anticipated by Whaley et al (Nature).

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Whaley et al discloses at page 665, cols. 1 and 2 a metal material comprising of combinatorial phage-display libraries that evolves peptides, which metal particles such as Gas, GaAs, and Si, inter alia, bind thereto. Accordingly, the specific metal material of Whaley comprising of specific compounds fully meet the broad claimed metal material of no given or defined structure or component.

Claims 133, 134, 136, 137-138 and 141 are rejected under 35 U.S.C. 102(b) as being anticipated by Warne et al (IEE Transactions).

Warne discloses at page 3009 up to 3011 a metal (Co) synthesized metal particles.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. D. Wessendorf whose telephone number is (571) 272-0812. The examiner can normally be reached on Flexitime.

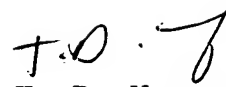
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571) 272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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T. D. Wessendorf  
Primary Examiner  
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tdw

September 22, 2005